

Claims

- [c1] A paintball gun reloading assembly for use by a participant in a paintball competition to supply paintballs to a paintball storage reservoir having a filling opening therein, the paintball gun reloading assembly comprising:
- a cover assembly attached to the paintball storage reservoir comprising a cover movable from a closed position to prevent paintballs from spilling from the storage reservoir to an open position for receiving paintballs into the storage reservoir;
 - a reloading canister having a discharge opening adapted for at least partial insertion into the filling opening and comprising a gate assembly having at least one gate movable from a closed position closing the discharge opening to an open position away from the discharge opening; and
 - at least one pivot boss attached to the at least one gate for moving the at least one gate from the closed position to the open position when the at least one pivot boss is in contact with the cover assembly and the reloading canister is moved into the filling opening;
- wherein the cover and the at least one gate are movable to the open position by the engagement of the reloading canister with the cover assembly, and
- wherein the participant can continuously operate the paintball gun during the filling process.
- [c2] A paintball gun reloading assembly according to claim 1, wherein the cover assembly comprises a hinged cover pivotable between the closed and open positions.
- [c3] A paintball gun reloading assembly according to claim 2, wherein the hinged cover further comprises a flange portion for engaging the at least one pivot boss

to open the hinged cover.

- [c4] A paintball gun reloading assembly according to claim 3, and further comprising a latch pin attached to the at least one pivot boss.
- [c5] A paintball gun reloading assembly according to claim 4, wherein the latch pin is movable between an extended position and a retracted position.
- [c6] A paintball gun reloading assembly according to claim 1, wherein the cover assembly comprises a tongue piece for directing the discharge opening to the hinged cover.
- [c7] A paintball gun reloading assembly according to claim 1, wherein the cover assembly comprises a tongue piece for directing the discharge opening to the filling opening.
- [c8] A paintball gun reloading assembly according to claim 3, wherein the cover assembly comprises a tongue piece for directing the pivot boss to the flange portion.
- [c9] A paintball gun reloading assembly according to claim 1, and further comprising a biasing mechanism for urging the cover to the closed position.
- [c10] A paintball gun reloading assembly according to claim 9, wherein the biasing mechanism is a spring.
- [c11] A paintball gun reloading assembly according to claim 1, wherein the cover assembly comprises at least one membrane stretched across the filling opening and deformable from the closed position to the open position.
- [c12] A paintball gun reloading assembly according to claim 11, wherein the at least one membrane comprises a pair of semicircular membranes separated by a slit.

- [c13] A paintball gun reloading assembly according to claim 1, wherein the gate assembly comprises at least two radially-opposed, spoon-shaped gates.
- [c14] A paintball gun reloading assembly according to claim 1, wherein the gate assembly comprises an elliptical gate.
- [c15] A paintball gun reloading assembly according to claim 1, wherein the gate assembly comprises a circular gate.
- [c16] A paintball gun reloading assembly according to claim 1, wherein the gate assembly comprises a planar gate.
- [c17] A paintball gun reloading assembly according to claim 13, wherein the at least one pivot boss is attached to the at least two radially-opposed, spoon-shaped gates.
- [c18] A paintball gun reloading assembly according to claim 1, wherein the at least one pivot boss is attached to the at least one gate.
- [c19] A paintball gun reloading assembly according to claim 1, and further comprising a biasing mechanism for urging the at least one gate to the closed position.
- [c20] A paintball gun reloading assembly according to claim 19, wherein the biasing mechanism is a spring.
- [c21] A combination paintball gun, paintball storage reservoir, and paintball gun reloading assembly, comprising:
 - a paintball gun for use by a participant in a paintball competition for firing paintballs at a target;
 - a paintball storage reservoir having a filling opening therein and attached to the paintball gun for supplying paintballs to the paintball gun;
 - a cover assembly attached to the paintball storage reservoir comprising a cover

movable from a closed position to prevent paintballs from spilling from the storage reservoir to an open position for receiving paintballs into the storage reservoir;

a reloading canister having a discharge opening adapted for at least partial insertion into the filling opening and comprising a gate assembly having at least one gate movable from a closed position closing the discharge opening to an open position away from the discharge opening; and

a pivot boss for moving the at least one gate from the closed position to the open position when the pivot boss is in contact with the cover assembly and the reloading canister is moved relative to the filling opening;

wherein the cover and the at least one gate are movable to the open position by the engagement of the reloading canister with the cover assembly, and

wherein the participant can continuously operate the paintball gun during the filling process.

[c22] A combination according to claim 21, wherein the cover assembly comprises a hinged cover pivotable between the closed and open positions.

[c23] A combination according to claim 22, wherein the hinged cover further comprises a flange portion for engaging the at least one pivot boss to open the hinged cover.

[c24] A combination according to claim 23, and further comprising a latch pin attached to the at least one pivot boss.

[c25] A combination according to claim 24, wherein the latch pin is movable between an extended position and a retracted position.

[c26] A combination according to claim 21, wherein the cover assembly comprises a tongue piece for directing the discharge opening to the hinged cover.

- [c27] A combination according to claim 21, wherein the cover assembly comprises a tongue piece for directing the discharge opening to the filling opening.
- [c28] A combination according to claim 23, wherein the cover assembly comprises a tongue piece for directing the pivot boss to the flange portion.
- [c29] A combination according to claim 21, and further comprising a biasing mechanism for urging the cover to the closed position.
- [c30] A combination according to claim 29, wherein the biasing mechanism is a spring.
- [c31] A combination according to claim 21, wherein the cover assembly comprises at least one membrane stretched across the filling opening and deformable from the closed position to the open position.
- [c32] A combination according to claim 31, wherein the at least one membrane comprises a pair of semicircular membranes separated by a slit.
- [c33] A combination according to claim 21, wherein the gate assembly comprises at least two radially-opposed, spoon-shaped gates.
- [c34] A combination according to claim 21, wherein the gate assembly comprises an elliptical gate.
- [c35] A combination according to claim 21, wherein the gate assembly comprises a circular gate.
- [c36] A combination according to claim 21, wherein the gate assembly comprises a planar gate.
- [c37] A combination according to claim 33, wherein the at least one pivot boss is attached to the at least two radially-opposed, spoon-shaped gates.
- [c38] A combination according to claim 21, wherein the at least one pivot boss is

attached to the at least one gate.

- [c39] A combination according to claim 21, and further comprising a biasing mechanism for urging the at least one gate to the closed position.
- [c40] A combination according to claim 39, wherein the biasing mechanism is a spring.
- [c41] A method for supplying paintballs to a paintball storage reservoir having a filling opening therein, the method comprising:
- attaching a cover assembly to the paintball storage reservoir, the cover assembly comprising a cover adjustable from a closed position to prevent paintballs from spilling from the storage reservoir to an open position for receiving paintballs into the storage reservoir;
 - engaging a reloading canister with the filling opening, the reloading canister having a discharge opening and comprising a gate assembly having at least one gate moveable from a closed position closing the discharge opening to an open position away from the discharge opening;
 - moving the reloading canister toward the filling opening so that the cover moves from the closed position to the open position;
 - moving the reloading canister toward the filling opening so that at least one pivot boss extending from the at least one gate is in contact with the cover assembly;
 - moving the at least one gate from the closed position to the open position by moving the reloading canister relative to the filling opening; and
 - discharging paintballs through the discharge opening into the filling opening to fill the storage reservoir;
 - using one hand to open the cover assembly, move the reloading canister into the filling opening, and open the gate assembly to discharge paintballs into the storage reservoir while supporting the storage reservoir with the other hand.

- [c42] A method according to claim 41, and furthermore moving the reloading canister toward the filling opening along a tongue piece.
- [c43] A method according to claim 41, and furthermore moving the reloading canister away from the filling opening to move the cover from the open position to the closed position
- [c44] A method according to claim 41, and furthermore moving the reloading canister away from the filling opening to move the at least one gate from the open position to the closed position.
- [c45] A method according to claim 41, and furthermore pivoting the at least one gate from the losed position to the open position.
- [c46] A method according to claim 41, and furthermore latching the at least one gate in the closed position with a movable latch pin.